

**REMARKS**

**I. Status of Claims:**

Reconsideration and allowance of claims pending in the subject application are requested.

Claims 1-53 are pending in the subject application, and have been rejected in the subject Final Office Action, dated May 23, 2008, as follows:

A. The specification is objected to as failing to provide the proper antecedent for the claimed subject matter in claim 37 and related dependent claims.

B. Claims 1-5, 11-14, 16-23, 29-32 and 34-53 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kammer et al. ("Bluetooth Application Developer's Guide) in view of Beck et al. (U.S. Patent No. 6,604,140).

C. Claims 6-10, 15, 24-28 and 33 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kammer et al in view of Beck et al. and further in view of Howe (U.S. Publication No. 2005/0058149).

Applicants respond to the indicated Paragraphs of the Final Rejection as follows:

**II. Answer to Examiner's Arguments:**

1. The Examiner argues that Kammer at pages 24 and 41 discloses "an inquiry result includes an indication that the nearby device may include a middleware layer, creating a wireless short-range connection to said one nearby device, confirming whether said one nearby device includes the middleware layer by requesting corresponding information from said nearby device via the short-range connection.".

Kammer at pages 24 and 41 discloses.... "The Service Discovery Protocol (SDP) allows a device to retrieve information on services offered by a neighboring device. Then a

special higher layer connection is established for use by Service Discovery is set up.” Kammer establishes a connection to determine the content of services.

In contrast, according to the claimed subject matter of the application in question parties involved in connection establishment confirm the presence of middleware software in both the inquiring and nearby devices before establishing the actual connection. The discovery includes (1) obtaining information from the nearby device regarding presence of a middleware layer in the nearby device, and (2) confirming the presence of the middleware layer by sending a recognition request message and receiving a recognition response message by setting the class of device field parameters to indicate the presence of the middleware layer, as described in applicants specification at Paragraph 0043. The initial indication and the confirmation save the inquiring device from expending power and time in the event the nearby device does not include middleware software, whereas Kammer requires power and time to enter into a disconnect process in the event the requested services are not available at the nearby device.

In any event the Examiner acknowledges that “Kammer does not show the middleware layer for providing application and service discovery, but teaches the service discovery protocol SDP establishes a connection between devices to allow devices to find out about other device capabilities and services offered by them.”

2. The Examiner argues that Beck discusses (but does not disclose) middleware to enable a device to discover, advertise and use services. Beck does not provide any details on discovering, advertising and using services. There is no support in the Beck disclosure for interrogating a nearby device for a middleware layer, confirming the presence of the middleware layer and upon confirmation establishing a connection between devices to discover and launch applications and services.

Contrary to the Examiner’s claim that the argued features read upon Kammer and Beck, applicants have demonstrated in the above paragraphs that Kammer in view of Beck do not disclose or suggest the claimed features relating to (1) an inquiry result including an

indication of a middleware layer; (2) confirming the presence of the middleware layer in a nearby device, and (3) upon confirmation, establishing a connection to execute the middleware layer of the nearby device to perform application and service discovery.

**II. Response to the Rejection of the Specification:**

Applicants have amended claim 37 and related dependent claim 39 to describe computer program products as computer recordable and readable medium, described as a memory in applicants' specification at Paragraphs 0028 and 0030. It is well known to those skilled in the art that memories are recordable and readable medium for implementing the claimed subject matter.

Entry of the amendment and withdrawal of the rejection are requested.

**III. Response to the Rejections under 35 USC 103(a)**

1. Claims 1-5, 11-14, 16-23, 29-32 and 34-53 include features, not disclosed or suggested, in the cited art of Kammer, of record in view of USP 6, 604,140 to J.E. Beck, of record and overcome the rejection under 35 USC 103 (a) thereof, as follows:

Applicants have demonstrated in the paragraph I. above that Kammer in view of Beck do not disclose or suggest the claimed features relating to

- (1) an inquiry result including an indication of a middleware layer;

Kammer discloses an inquiry result indicating available services, but does not conduct an inquiry including information for identify a middleware layer comprising software for providing application and service discovery.

- (2) confirming the presence of the middleware layer in a nearby device

Kammer discloses standard service discovery process establishing a connection between the inquiring and nearby devices to perform a SDP inquiry. In contrast.

applicants conduct an inquiry including information for identifying the presence of a middleware layer at a nearby device.

(3) upon confirmation, establishing a connection to execute the middleware layer of the nearby device to perform application and service discovery.

Kammer and Beck disclose the inquiring device performs SDP without confirmation of available services. In contrast, applicants disclose obtaining information of the presence of a middleware layer at the inquiring and nearby devices before performing application and service discovery. The confirming step saves applicants inquiring device power and time in establishing a connection for application and service discovery.

2. Claim 19:

Claim 19 describes Claim 1 in method format. Claim 19 is distinguishable from Kammer and Beck on the same basis as claim 1 is distinguishable from Kammer and Beck.

In particular, the Examiner cites Kammer at page 24, line 20 – end of page as describing the claimed feature “confirming whether said at least one nearby device includes the middleware layer by requesting corresponding information from said at least one nearby device via the wireless short-range connection;” Applicants disagree.

The cited text discloses the inquiring device establishes a connection to request information and receive responses containing information on the services available at the inquired device. There is no disclosure in Kammer and Beck of conducting an inquiry to confirm the presence of services before a connection is established, as applicants describe in applicants’ specification at Paragraphs 0011 and 0045. Kammer and Beck, alone or in combination establish a connection, whereas applicants conduct an inquiry before establishing a connection, provided middleware is available. Applicants’ method saves power and time for an inquiring device.

Withdrawal of the rejection and allowance of claim 19 is requested.

3. Claim 37

Claim 37 describes Claim 1 in program product format. Claim 37 is distinguishable from Kammer and Beck on the same basis as claim 1 is distinguishable from Kammer and Beck.

Withdrawal of the rejection and allowance of claim 37 is requested.

4. Claim 45

Claim 45 further describes claim 1 in means + function format. Claim 45 is distinguishable from Kammer and Beck on the same basis as claim 1 is distinguishable from Kammer and Beck.

Withdrawal of the rejection and allowance of claim 37 is requested.

5. Claim 53

Kammer in view of Beck fails to disclose claim 53 features, as follows:

(i) “transmit with the transceiver an inquiry response message including an indication that wireless device includes a middleware layer, said middleware layer comprising a middleware software for providing application and service discovery;”

The extensively cited texts in Kammer disclose in Figure 1.6 the inquiring and neighboring device are in an inquiry and an inquiry scan modes, respectively. The neighboring device transmits a device identification. Based on the neighboring device identification, the inquiring and neighboring devices enter a page and page scan mode.

Applicants can not find nor has the Examiner identified in the extensively cited text, where a neighboring device provides an indication in an inquiry result command of the presence of a middleware layer, as applicants describes in applicants' specification at Paragraphs 0011 and 0043.

(ii) “confirm whether said at least one nearby device includes the middleware layer by requesting corresponding information from said at least one nearby device via the wireless short-range connection; and when said at least one nearby device includes the middleware layer: execute the middleware layer to perform application and service discovery.”

As described in the consideration of claim 1, applicants create a wireless connection between the inquiring and neighboring devices, when the neighboring device provides information indicating the presence of a middleware layer. Neither Kammer nor Beck describes a confirmation step in establishing a wireless connection between inquiring and neighboring devices.

Withdrawal of the rejection and allowance of claim 53 is requested.

6. Claims 2, 20, 38

The Examiner cites Beck at column 8, line 57 continuing to column 9, line 10 as describing the claimed subject matter. The cited text describes a computer system implementing a service framework. Applicants can not find nor has the Examiner identified in the cited text where a worker skilled in the art would be taught of a middleware layer including a service discovery protocol and a computer program for performing application and service discovery in an apparatus.

There is no support in the cited reference for the rejection of claims 2, 20 and 38.

Withdrawal of the rejection and allowance of claims 2, 20 and 38 are requested.

7. Claims 3, 21, 39

Claims 3, 21, and 39 depend from and further limit independent claims and are distinguishable from the cited art on the same basis as the independent claim from which they respectively depend.

Withdrawal of the rejection and allowance of claims 3, 21, and 39 are requested.

8. Claims 5, 23

Claims 5, 23 depend from and further limit independent claim 1 and 19, respectively and are patentable over the cited art on the same basis as claim from which they depend.

9. Claims 4, 22, 40 and 48

Applicants can not find nor has the Examiner identified in the extensively cited text, where a nearby device provides an indication in an inquiry result command message of the presence of a middleware layer, as applicants describes in applicants' specification at Paragraphs 0011 and 0043.

Withdrawal of the rejection and allowance of claims 4, 22, 40 and 48 are requested.

10. Claims 11, 29, 41 and 49

Claims 11, 29, 41 and 49 depend from and further limit independent claims 1, 19, 37 and 45, respectively and are patentable over the cited art on the same basis as claim from which they depend.

11. Claims 12, 30, 42 and 50

Claims 12, 30, 42 and 50 depend from and further limit independent claims 1, 19, 37 and 45, respectively and are patentable over the cited art on the same basis as the independent claim from which they depend.

12. Claims 13, 31, 14, 16, 32 and 34

Claims 13, 31, 14, 16, 32 and 34 depend from and further limit independent claims 12 and 30, and are patentable over the cited art on the same basis as the independent claim from which they depend.

13. Claims 17, 35, 51

The Examiner cites Kammer in view of Beck as describing the claimed features, as follows:

(i) receive a notification message from said at least one nearby device, the notification message including a local application directory stored in said at least one nearby device;

The Examiner cites Beck at column 2, lines 4-5 and 57-63 as describing the claimed subject matter. The cited text describes Local Service and Software clients sharing a service implementation or an implementation proxy. Applicants can not find nor can a worker skilled in the art find any disclosure in the cited text related to a notification message for a local application directory.

(ii) store an update to a combined application directory, the update based on a comparison of the local application directory and the combined application directory; and

The Examiner cites Beck at column 7, lines 12-25 and column 8, lines 25-27 as describing the claimed subject matter. The cited text further describes Local Service. Applicants can not find nor can a worker skilled in the art find any disclosure in the cited text related to storing an update based on a comparison of a local application directory and a combined application directory.

(iii) send an update message to said at least one nearby device, the update message including an update portion of the combined application directory for updating the local application directory stored in said at least one nearby device.

The Examiner cites Beck at column 6, lines 45-67; column 7, lines 12-15 and column 8, lines 24-27 as describing the claimed subject matter. The cited text relates to a service



adapter for combining utilities for local service. . Applicants can not find nor can a worker skilled in the art find any disclosure in the cited text related to sending update message including an update portion of the combined application directory for updating the local application directory stored in a nearby device.

There is no disclosure in the cited text supporting the rejection of claims 17, 35, 51. Withdrawal of the rejection and allowance of claims 17, 35 and 51 are requested.

In any event claims 17, 35, and 51 depend from independent claims 1, 19 and 45 and are patentable on the same basis as the independent claims, as previously discussed.

14. Claim 18, 52

The Examiner cites Kammer in view of Beck as describing the claimed features, as follows:

(i) launch a local application based on a reference in the combined application directory; and

The Examiner cites Beck at column 6, lines 45-67 as describing the claimed subject matter. The cited text discloses a service adapter enabling a combination of utilities. Applicants can not find nor can a worker skilled in the art find any disclosure in the cited text related to launching a local application based on a reference in a combined application directory; and .

(ii) connect the local application to a counterpart application executing on said at least one nearby device.

The Examiner cites Beck at column 6, lines 45-67, discussed above. Applicants can not find nor can a worker skilled in the art find any disclosure in the cited text related to connecting a local application to a counterpart application executing on said at least one nearby device.

There is no disclosure in the cited text supporting the rejection of claims 18 and 52. Withdrawal of the rejection and allowance of claims 18 and 52 are requested.

In any event claims 18 and 52 depend from independent claims 1 and 45, respectively, and are patentable on the same basis as the independent claims, as previously discussed.

**IV. Response to the Rejection of the Claims under 35 USC 103 (a)**

Claims 6-10, 15, 24-28 and 33 include features not disclosed or suggested in the cited art of Kammer, of record; Beck, of record, and Howe, of record and overcome the rejection under 235 USC 103 (a), as follows:

1. Claims 6, 24:

The Examiner acknowledges that Kammer in view of Beck do not disclose bit indication.

The Examiner cites Howe at sections 5-35 as setting at least one bit in an inquiry result to a predetermined value as an indication of a middleware layer in a device. Applicant disagrees, as follows:

Howe in Figures 52-56 discloses exemplary bit fields for time reservation/schedule/slot request /assignment in time scheduled packets. The time scheduled packets may be routed /switched based on information in the packet at various layers and /or arrival time. Selecting at least one bit field to direct a packet in a time scheduled network does not equate to selecting at least one bit indicator identifying the status of a middleware layer and its' capabilities in an inquiry result to an inquiry from a nearby device in an ad hoc network.

Howe discloses bit indicators to direct packets in a network. Applicants disclose bit indicator to advise other devices the status of software, i.e. middleware in an ad hoc network. Howe does not suggest to a worker skilled in the art bit indicators for identifying middleware.

For the reasons indicated above, there is no support in the combination of Kammer, Beck and Howe, alone or in combination, describing the claimed feature.

In any event claims 6 and 24 depend from and further limit claims 1 and 19, respectively and are patentable on the same basis as the claim from which they depend directly or indirectly. Withdrawal of the rejection and allowance of claims 6 and 24 are requested.

2. Claims 7, 25

The Examiner acknowledges that Kammer in view of Beck do not disclose bit indication. The Examiner cites Howe at sections 370-374 as describing the claimed subject matter. Howe discloses bit indicators to direct packets in a network. Applicants disclose bit indicator to advise other devices the status of software, i.e. middleware in an ad hoc network. Howe does not suggest to a worker skilled in the art bit indicators for identifying middleware.

In any event, claims 7 and 25 depend from and further limit claims 1 and 19, respectively and are patentable on the same basis as the claim from which they depend directly or indirectly. Withdrawal of the rejection and allowance of claims 7 and 25 are requested.

3. Claims 8, 26

The Examiner acknowledges that Kammer in view of Beck do not disclose bit indication. The Examiner cites Howe at sections 370-374 as describing the claimed subject matter. Howe discloses bit indicators to direct packets in a network. Applicants disclose bit indicator to advise other devices the status of software, i.e. middleware in an ad hoc network. Howe does not suggest to a worker skilled in the art bit indicators for identifying middleware.

In any event, claims 8 and 26 depend from and further limit claims 1 and 19, respectively and are patentable on the same basis as the claim from which they depend directly or indirectly. Withdrawal of the rejection and allowance of claims 8 and 26 are requested.

4. Claims 9, 27

The Examiner acknowledges that Kammer in view of Beck do not disclose bit indication. The Examiner cites Howe at sections 5-35 as describing the claimed subject matter. Sections 5-35 describe network communications, particularly packet switching. Applicants can find no disclosure in Howe related to bit indicators in ad hoc networks.

In any event, claims 8 and 26 depend from and further limit claims 1 and 19, respectively and are patentable on the same basis as the claim from which they depend directly or indirectly. Withdrawal of the rejection and allowance of claims 8 and 26 are requested.

5. Claims 10, 28

The Examiner acknowledges that Kammer in view of Beck do not disclose bit indication. The Examiner cites Howe at sections 5-35 as describing the claimed subject matter. Sections 5-35 describe network communications, particularly packet switching. Applicants can find no disclosure in Howe related to bit indicators in ad hoc networks.

In any event, claims 10 and 28 depend from and further limit claims 1 and 19, respectively and are patentable on the same basis as the claim from which they depend directly or indirectly. Withdrawal of the rejection and allowance of claims 10 and 28 are requested.

6. Claims 15, 33

The Examiner acknowledges that Kammer in view of Beck do not disclose bit indication. The Examiner cites Howe at sections 370-374 as describing the claimed subject matter. Howe discloses bit indicators to direct packets in a network. Applicants disclose bit indicator to advise other devices the status of software, i.e. middleware in an ad hoc network. Howe does not suggest to a worker skilled in the art bit indicators for confirmation of middleware.

In any event, claims 15 and 33 depend from and further limit claims 1 and 19, respectively and are patentable on the same basis as the claim from which they depend directly or indirectly. Withdrawal of the rejection and allowance of claims 15 and 33 are requested.

### **CONCLUSION**

Applicants have distinguished the claims and over come the cited art. Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

### **AUTHORIZATION**

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **13-4500**, Order No. 4208-4114US1.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **13-4500**, Order No. 4208-4114US1.

Respectfully submitted,  
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